

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A vehicle operation assist for a vehicle mounted with a camera, said vehicle operation assist comprising:

an imaging unit operable to generate a circumferential state image using an output image from the camera, said circumferential state image viewed from a virtual viewpoint, said virtual viewpoint being different from a viewpoint of the camera;

a synthetic-image generating unit operable to generate a synthetic image by using the circumferential state image, said synthetic image including a surrounding space around the vehicle and an ~~assumed~~-~~assumed~~-movement pattern image which is based on a predetermined driving operation of the vehicle, the assumed-movement pattern image including a movement of the vehicle between a start position of the vehicle and a parking position of the vehicle in case of performing the predetermined driving operation; and

a display unit operable to display the synthetic image.

2-4. (Cancelled).

5. (Previously Presented) The vehicle-operation assist according to claim 1, wherein

the circumferential state image viewed from a predetermined viewpoint as a point fixed in three-dimensional space or the vehicle, and

a viewpoint converting unit is included that changes the predetermined viewpoint automatically or through an input from a driver.

6-7. (Cancelled).

8. (Previously Presented) The vehicle-operation assist according to claim 1, wherein

the assumed-movement pattern image includes virtual poles arranged on the outer edge of the vehicle movement area.

9. (Previously Presented) The vehicle-operation assist according to claim 1, wherein

the synthetic-image generating unit superimposes a current-position area in which the vehicle is present, on the circumferential-state image to generate the synthetic image.

10. (Cancelled).

11. (Previously Presented) The vehicle-operation assist according to claim 1, wherein when actual driving operations corresponding to a predetermined series of driving operations are started,

the synthetic-image generating unit fixes a positional relation between the assumed-movement pattern image and the circumferential-state image at a point of time when the actual driving operations are started and generates the synthetic image.

12. (Previously Presented) The vehicle-operation assist according to claim 11, wherein

a positional-information storing unit is included which stores positional information of the whole or a part of the assumed-movement pattern image with regard to the whole or a part of the video data for the circumferential-state image on the synthetic image when the actual driving operations are started, and

the synthetic-image generating unit fixes the positional relation in accordance with the positional information.

13. (Cancelled).

14. (Previously Presented) The vehicle-operation assist according to claim 1, wherein

a final-position inputting unit for inputting a final position which is a position of the vehicle at end of the movement and a start-position determining unit for obtaining a start position which is a position at start of the movement corresponding to the input final position in accordance with an assumed-movement pattern are included, and

the synthetic-image generating unit superimposes the input final position and the start position corresponding to the input final position on the circumferential-state image to generate the synthetic image.

15. (Previously Presented) The vehicle-operation assist according to claim 14 wherein

a start-position guiding unit is included which guides the vehicle to the start position by automatically controlling driving of the vehicle.

16. (Previously Presented) The vehicle-operation assist according to claim 1, wherein

an assumed-movement-pattern storing unit holds a plurality of assumed-movement patterns.

17. (Previously Presented) The vehicle-operation assist according to claim 16, wherein

the assumed-movement-pattern storing unit holds a plurality of assumed-movement patterns, and

a pattern selecting unit is included which automatically selects the assumed-movement pattern through an input from a driver or predetermined driving operations.

18. (Previously Presented) The vehicle-operation assist according to claim 16, wherein a pattern correcting unit is included which updates and corrects content of the assumed-movement patterns stored in the assumed-movement-pattern storing unit.

19. (Previously Presented) The vehicle-operation assist according to claim 18, wherein the pattern correcting unit updates and corrects the assumed-movement patterns in accordance with the vehicle positions at start and end of the corrected movement input from a driver.

20. (Previously Presented) The vehicle-operation assist according to claim 18, wherein the pattern correcting unit updates and corrects the assumed-movement patterns in accordance with an actual driving operation.

21-23. (Cancelled).

24. (Previously Presented) The vehicle-operation assist according to claim 5, wherein

when the viewpoint converting unit changes the predetermined viewpoint, the viewpoint converting unit fixes the predetermined viewpoint to the vehicle before the actual driving operations corresponding to the predetermined series of driving operations are started and changes the predetermined viewpoint to a point fixed to the three-dimensional space after the actual driving operations corresponding to the predetermined series of driving operations are started.

25. (Cancelled).

26. (Previously Presented) The vehicle-operation assist according to claim 1, wherein the assumed-movement pattern image includes a circumscribed area on a space through which the vehicle passes when a predetermined series of driving operations are performed.

27.-28. (Cancelled).

29. (Previously Presented) The vehicle-operation assist according to claim 1, wherein the assumed-movement pattern image includes a change from a backward movement to a forward movement or from a forward movement to a backward movement in a predetermined series of driving operations.

30. (Previously Presented) The vehicle-operation assist according to claim 1 wherein an obstacle inputting unit is included which is able to input a position of an obstacle area in an image to the display unit for displaying the synthetic image.

31. (Cancelled).

32. (Previously Presented) The vehicle-operation assist according to claim 18, wherein

the pattern correcting unit updates and corrects the assumed-movement patterns in accordance with a position of an obstacle area input from a driver.

33.-36. (Cancelled).

37. (Currently Amended) A method of vehicle operation assist comprising the steps of:

(a) ~~imaging a circumferential state of a vehicle;~~

(b) ~~generating a circumferential-state image of the vehicle as viewed from a virtual viewpoint based on an output image from a camera~~the imaging of step (a);

(c) ~~generating a synthetic image of the vehicle by using the circumferential state image of the vehicle, said synthetic image including a surrounding space around the vehicle and with respect to an assumed-movement pattern image which is obtained from a series of a predetermined driving operation for the vehicle, the assumed-movement pattern image including a movement of the vehicle between a start position of the vehicle and a parking position of the vehicle in case of performing the predetermined driving operation; and~~

and

(d) displaying the synthetic image of the vehicle.

38.-42. (Cancelled).

43. (Currently Amended) ~~The vehicle operation assist according to claim 1,~~
A vehicle operation assist for a vehicle mounted with a camera, said vehicle operation assist comprising:

an imaging unit operable to generate a circumferential state image using an output image from the camera, said circumferential state image viewed from a virtual viewpoint, said virtual viewpoint being different from a viewpoint of the camera;

a synthetic-image generating unit operable to generate a synthetic image by using the circumferential state image and an assumed-movement pattern image which is based on a predetermined driving operation of the vehicle, the assumed-movement pattern image including a movement of the vehicle between a start position of the vehicle and a parking position of the vehicle in case of performing the predetermined driving operation; and

a display unit operable to display the synthetic image,

wherein the assumed-movement pattern image includes tire traces.

44. (Currently Amended) ~~The method of vehicle operation assist according to claim 37,~~
A method of vehicle operation assist comprising the steps of:

(a) imaging a circumferential state of a vehicle;

(b) generating a circumferential-state image of the vehicle as viewed from a virtual viewpoint based on the imaging of step (a);

(c) generating a synthetic image of the vehicle by using the circumferential state image of the vehicle with respect to an assumed-movement pattern image which is obtained from a series of a predetermined driving operation

Application No.: 09/581,004
Amendment Dated: December 1, 2006
Reply to Office Action of: July 24, 2006

MTS-3200US

for the vehicle, the assumed-movement pattern image including a movement of the vehicle between a start position of the vehicle and a parking position of the vehicle in case of performing the predetermined driving operation; and

(d) displaying the synthetic image of the vehicle,

wherein the assumed-movement pattern image includes tire traces.